

DOCUMENT RESUME

ED 341 719

TM 017 907

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TITLE Test Item Construction in the Cognitive Domain.
INSTITUTION Home Economics Education Association, Washington, D.C.
PUB DATE 79
NOTE 35p.
AVAILABLE FROM Home Economics Education Association, 1201 Sixteenth Street, N.W., Washington, DC 20036 (Publication A261-08442).
PUB TYPE Guides - Classroom Use - Instructional Materials (For Learner) (051)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Cognitive Tests; Elementary School Teachers; Elementary Secondary Education; Essay Tests; Evaluation Methods; Higher Education; Inservice Education; *Objective Tests; *Preservice Teacher Education; Secondary School Teachers; *Test Construction; Test Format; Testing Problems; Test Items; *Thinking Skills; *Undergraduate Students
IDENTIFIERS Blooms Taxonomy

ABSTRACT

This individualized learning package on test item construction as a component of evaluation is designed for the undergraduate student in teacher education programs. The hierarchy of learning levels on which the package rests is that of B. Bloom's (1956) taxonomy of learning. The premises are that higher order learning is significant and desirable and that test items are more likely to measure learning effectively if items are in the same domain and at the same level as are objectives. Section I of this learning package examines the following items of non-essay tests: (1) multiple choice; (2) alternate choice; (3) matching; (4) fill-in-the-blank; and (5) listing. Section II examines developing essay test items. Section III focuses on quest-type (adventure) test items. Keys for pre-test and section tasks are included. Throughout the package, there is emphasis on the relationship of objective and evaluation items. Although the package is intended for pre-service teachers, it may be useful to in-service teachers as well. The tasks in each section include sample questions. A 14-item list of references is included. (SLD)

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Item 6 True-False
F A nuclear atom is one which has a single head of
porting relationship.

Obj. 7 To comprehend symbols used on commercial garment labels.
Item 7 True-False

TEST ITEM CONSTRUCTION

Diagram X: A represents bias.
F 1. In Diagram X: A represents bias. (Level: Comprehension)
F 2. B represents crosswise grain.
F 3. C represents bias.

Obj. 8 To apply knowledge of large and small motor development. Beside each activity, indicate with an
children's activities.

Item 8 Below are listed 10 activities for motor development. S or L which activity primarily develops large muscles or small muscles.
L skipping L jumping over boxes
L stringing beads S molding clay
S roller skating S finger painting
S working a jig saw puzzle S coloring (Level: Application)

Obj. 9 The student shall be able to identify the influences of heredity and environment in classifying influences
on the development of individuals.

Item 9 Below is a list of words describing factors which influence the growth and development of
individuals. (Circle the H in front of each word which is a heredity factor and circle the E in
front of each word or phrase which is an environmental factor.)

H	☒	Community
H	☒	Knowledge
H	☒	Hair Color
H	☒	Diseases such as Tay Sachs, hemophilia
H	☒	Personality

Obj. 10 To analyze basic needs, according to Maslow's theory of needs hierarchy, as illustrated in
mini-case records. (Level: Application)

Item 10 True-False
T A community action volunteer is unable to concentrate on the work assignment for
the day. Later he says he really doesn't care that he's offending his fellow workers
and clients; his head hurts and he just wants the pain to go away.
This is an illustration of esteem and belonging needs being subordinated to
physiological needs. (Level: Analysis)

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TEST ITEM CONSTRUCTION IN THE COGNITIVE DOMAIN

by
Kinsey B. Green

Objectives: To analyze the characteristics
of cognitive test items which
make them discriminating.

To apply the levels of the cog-
nitive domain in constructing
nonessay and essay test items.

For: Undergraduates in Teacher
Education

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With contributions from
University of Maryland students

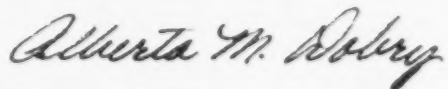
FOREWORD

The key to effective teaching tends to be continuously sought after by conscientious teachers. They recognize the benefits of maintaining a program of self-improvement to enhance their teaching skills. This publication has been prepared for this purpose with emphasis on the development of teacher-made tests.

Since teacher-made tests frequently serve as a major means of assessing the attainment of objectives and assignment of course marks, this function is of major importance for both teachers and their students. Results from carefully constructed teacher-made tests provide useful information to teachers in planning the future direction of students. Functions such as teaching procedures, curriculum choices, and teaching materials, in addition to student promotions, scholastic honors, and extra-curricular opportunities for students are all influenced by evaluation outcomes. Also of importance is the fact that results from teacher-made tests contribute to course marks which often have impact on determining educational careers and vocational choices of innumerable students. The far reaching consequences of test results reinforce the need for teachers to have and to maintain effective measurement skills.

Test Item Construction in the Cognitive Domain differs from some publications in that it was designed as an individualized learning package. Both pre-service and in-service teachers should find this approach profitable for developing, up-grading, or reviewing the construction of test items and test instruments.

The Home Economics Education Association is deeply indebted to Kinsey B. Green for devoting her time, effort, and expertise in the development of this publication. We are also grateful to the members of the Publications Committee who made helpful suggestions for the final preparation of the publication.



Alberta M. Dobry
President, 1977-79

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INTRODUCTION TO THE LEARNING PACKAGE

Students of early British education tell us that from 1863 to 1898, "... part of a teacher's salary was dependent on the success of children in his class, in an annual examination conducted by Her Majesty's Inspectors of Schools" (Pidgeon, p. 8). While not all salaries are contingent upon such evaluation results, the demand for accountability for students' learning is very much upon us.

Molony states that "... every educational decision is a value judgment. Both the choice of educational ends and the means selected for their attainment are ethically determined" (Molony, p. 54). The mode of evaluation is obviously included in this realm of ethical and, hopefully, rational decisions. Each instructor needs to know: How much did they learn? What did they learn? Did they master level of competency as stated in the objective? And finally, and perhaps most importantly, what difference does it make?

The basic premises of this learning package on test item construction as a component of evaluation are the following:

1. Higher order learning is significant and desirable.
2. Test items are more likely to measure effectively a learner's achievement of given objectives if the items are in the same domain and at the same level as the objectives.

Short answer items are often fallaciously labeled *objective* items, thereby implying that essay items are always *subjective*. Items of essay format can be objective if they are sound in content and if criteria for scoring are established prior to the scoring process. Conversely, items of non-essay format are objective only if they, too are sound in content and if criteria for scoring are established prior to grading.

The hierarchy of learning levels employed in this package is the *Taxonomy of Educational Objectives, Cognitive Domain*, as explicated by Benjamin Bloom (see reference list). One caveat must be noted: this taxonomy and its usefulness in the educational process is not universally accepted and valued, nor consistently applied. (For example, see Poole or Smith and Paterson for critique.) The premises pertain, however; higher order learning, rather than arrest at the memorization stage, is imperative for learner survival; and consistency of measurement levels and domain with objective levels and domain is necessary.

Section I of this learning package will examine items of non-essay types: multiple choice, alternate choice, matching, fill-in-the-blank, and listing. *Section II* will examine essay items. Pervasive throughout the whole package will be the relationship of objective to evaluation item.

Intended for pre-service teachers, this package may also be useful for in-service teachers, although the recommendations to check responses with instructor or peers may be more difficult to achieve.

INSTRUCTOR'S SECTION

- I. Each learner will need to check periodically with you or with a peer on the validity of his/her responses to the tasks at the end of each section. Watch particularly for congruity of the item with the objective specified, as this is the focus of the entire package.

Provide the key to items so that learners may check their own responses. You will need to evaluate some responses using the criteria of soundness of content, efficiency in format, and congruity with specified objective.

II. MATERIALS NEEDED FOR PACKAGE:

- 5 x 7" index cards.
- Some of the references listed.
- A capsule version of the levels of the cognitive domain, as summarized on pp. 201-207 of the Bloom reference; one copy per student.

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- Bloom, Benjamin, et al. *Taxonomy of Educational Objectives: Vol. I, Cognitive Domain*. Chicago: David McKay Co., 1956.
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PRE-TEST

Directions: Answer the following questions on a separate sheet of paper. Each question is worth 10 points. Score 90 or above and you do not need to complete the learning package! Check your responses to items 5-9 with the instructor; answers to other questions are on the pre-test key.

Directions for items 1-4: State the characteristic(s) of the following items which may make each confusing to the reader, or non-discriminating between those students who know the material and those who do not.

Item 1: The single best small appliance buy for a couple just setting up housekeeping is:

- (a) a mixer
- (b) a blender
- (c) a toaster-grill
- (d) an electric corn popper

Item 2: T-F Store brands are always better buys than name brands.

Item 3: A budget is an:

- (a) plan for getting credit
- (b) plan for "moonlighting" to earn extra income
- (c) plan for buying clothes
- (d) account of income and a plan for spending

Item 4: T-F In our class assignment of foods lab duties, the housekeeper washes the dishes.

Directions for items 5-9: Follow the instructions given for each item.

Item 5: Write a multiple choice test item which is congruent with the following objective:
The student will apply principles of optical illusion in line and color when selecting clothing.

Item 6: Write an alternate choice item which is congruent with the following objective:
The student will comprehend terms and symbols used on blue-prints for kitchens.

Item 7: Write a matching test item which is congruent with the following objective:
The student will analyze developmental tasks of families in various stages of the family life cycle.

Item 8: Write a fill-in-the-blank item which is congruent with the following objective:
The student will comprehend recipe terms and abbreviations.

Item 9: Write an essay item, and include criteria for scoring, for the following objective:
The student will evaluate influences on family disintegration.

Directions for item 10: Answer each part of A-D as briefly as possible:

Item 10: (A) Is the chance level of an alternate choice item higher or lower than the chance level of a multiple choice item?
(B) What is the relationship between number of columns and difficulty of a matching test item?
(C) Why is it difficult to construct a multiple or alternate choice test item which measures a learner's ability to synthesize?
(D) Considering speed in scoring time, which item type is quickest? Why? What are some reasons for using item types that take longer to score?

SECTION I. NON-ESSAY TEST ITEMS

CONCEPT: Measurement of achievement of cognitive objectives through the use of multiple choice, alternate choice, matching and fill-in-the-blank test items.

A. MULTIPLE CHOICE ITEMS

Multiple choice items contain a stem which asks the question and three or more options from which the learner selects the best answer. Some research indicates that 4 options constitute the most discriminating pattern for this kind of item. The following test items are matched with an instructional objective and illustrate multiple choice items in the cognitive domain at all levels except synthesis.

Obj. 1 To know methods for several clothing construction techniques, and purposes of each technique.

- Item 1 _____ Darts in garments are used for the following purposes:
- (a) reinforce seams
 - * (b) shape flat cloth to fit the curves of the figure
 - (c) relieve bulkiness in garment
 - (d) add fullness

(Level: Knowledge)

Obj. 2 The student will translate commercial clothing pattern symbols and terms.

- Item 2 _____ The pattern symbol below indicates that the tailor should do the following:
- (a) Trim corners
 - (b) Clip inner curves
 - * (c) Notch outer curves
 - (d) Layer the seam



(Level: Comprehension)

Obj. 3 The student can compute the credit costs when given the sales cost of an item, the amount of down payment, and the time allowed to pay for the item.

- Item 3 _____ A small portable record player costs \$50.00. The store requires \$5.00 down and \$5.00 a month for 12 months. The credit cost is:
- (a) \$5.00
 - (b) \$10.00
 - * (c) \$15.00
 - (d) \$25.00

(Level: Application)

Obj. 4 The student will analyze uses of the management processes of planning, controlling and evaluating.

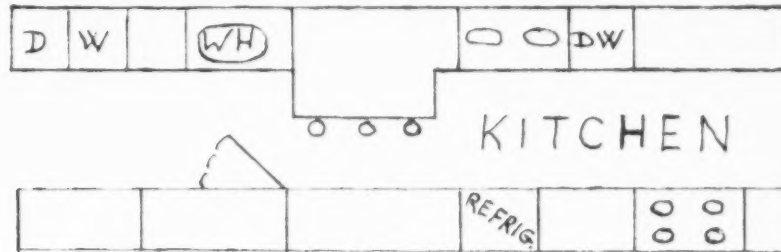
- Item 4 _____ Dave is responsible for the laundry in his family. As a part of this responsibility he talked with each family member about their usual needs, kinds of fabrics to be laundered, time requirements and unusual needs predicted during the next 6 weeks. Then he purchased laundry products and scheduled his own time accordingly.

Which of the basic management processes does this illustration example illustrate?

- *(a) Planning
- (b) Controlling
- (c) Evaluating
- (d) Revising

Obj. 5 To evaluate house plans for consideration of alterations.

Item 5 _____ Below is a floor plan of a kitchen and service area. What would be the best location for the addition of a bath, so that the fixture arrangement utilizes the existing plumbing lines?



- (a) To the right of the kitchen
- (b) To the left of the service area
- (c) In front of the service and kitchen area
- *(d) To the rear of the service area, extending particularly over the back of the kitchen area.

(Level: Evaluation)

Activities:

Now it's your turn! Submit your responses to the instructors.



Task 1: Answer the following questions on index cards.

A. Examine the typed format of the following two multiple choice items. Which format is easier to read and therefore less confusing to the reader?

#1 a Orange, green, and violet are examples of (a) secondary colors (b) intermediate colors (c) primary colors (d) adjacent colors.

#2 c Which of the following is not a function of carpet?

- (a) makes home more quiet by absorbing noise
- (b) keeps floors warm
- (c) provides a relatively inexpensive way of adding color to a room
- (d) adds comfort for walking and standing

B. What characteristic of the following test item makes it more difficult than one in which all options are mutually exclusive? Why is this true?

 e The modacrylic fibers are often chosen in preference to the acrylic fibers for blankets because the modacrylic fiber blanket has the following traits:

- (a) easier to wash and dry
- (b) more wool-like in appearance
- (c) more spill resistant
- (d) all of the above
- (e) only (a) and (c) above

- C. What characteristic(s) of the following item give the clue to the answer, even if the reader knows nothing about the material?

 b A child's growth and development can be summarized by the following 4 areas:

- (a) physical, intellectual and social
- (b) cognitive, emotional, social and physical
- (c) chronological and social
- (d) developmental and physical

- D. Examine the stem of the following item. Restate the stem to make it more complete, so that the reader knows what the question is before reading the options. Revise the options as necessitated by changes in the stem.

The cost of meat:

- *(a) varies with supply, quality, distribution costs and consumer demand
- (b) depends totally upon the nation's economy
- (c) is determined by the store-owner according to his need for profit
- (d) varies with availability of the source animals

- E. What characteristic of the following item gives the learner a clue to the correct answer?

Organic foods are best defined as those which:

- (a) are not synthetic
- (b) have been alive at some time
- (c) do not include preservatives
- *(d) are not man-made, are raised without artificial fertilizer or pesticides and do not include additives

Task 2: Using the previous examples as models, write test items of multiple choice format, to match any TWO of the following 3 objectives. Be sure your name and the objective you are matching are on your response cards.

Obj. F: The student will apply principles of cooking vegetables to preserve nutrients.

Obj. G: The student will analyze the types of persuasive appeal used in advertising.

Obj. H: The student will evaluate children's toys according to the criteria of safety, appropriateness for a given age and cost.

Task 3: The following item is concerned with the stages of the nuclear family life cycle and is written at the knowledge level.

Item: Which of the following options summarizes the major stages of the family life cycle?

- (a) Beginning, empty nest, launching
- (b) Expanding, elementary school, launching
- *(c) Beginning, expanding, contracting

Write a multiple choice test item which is based on the concept of the nuclear family life cycle, but which raises the level of cognition ABOVE the knowledge level.

ON TO A NEW ITEM TYPE

B. ALTERNATE CHOICE ITEMS

Alternate choice test items are those for which the learner has only two answer options. The most common item of this type is the true-false item.

Alternate choice items of several kinds, illustrating knowledge and the higher levels of the cognitive domain, are shown below.

Obj. 6 To know definitions of various family structures.

Item 6 True-False

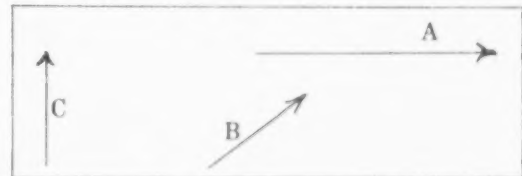
F A nuclear family is one which has a single head of household, but with multiple supporting relatives very close by.

(Level: Knowledge)

Obj. 7 To comprehend symbols used on commercial garment patterns.

Item 7 True-False

Diagram X



F 1. In Diagram X: A represents bias.

F 2. B represents crosswise grain.

F 3. C represents bias.

(Level: Comprehension)

Obj. 8 To apply knowledge of large and small motor development in classifying the usefulness of children's activities.

Item 8 Below are listed 10 activities for motor development. Beside each activity, indicate with an S or L whether the activity primarily develops large muscles or small muscles.

L throwing a large ball

L skipping

S stringing beads

L roller skating

S working a jig saw puzzle

L jumping over boxes

S modeling clay

S finger painting

L climbing a tree

S coloring

(Level: Application)

Obj. 9 The student will apply the definitions of heredity and environment in classifying influences on the development of an individual.

Item 9 Below is a list of words describing factors which influence the growth and development of individuals. (Circle the H in front of each word which is a heredity factor and circle the E in front of each word or phrase which is an environmental factor.)

H E Community

H E Knowledge

H E Hair Color

H E Diseases such as Tay Sachs, hemophilia

H E Personality

(Level: Application)

Obj. 10 To analyze basic needs, according to Maslow's theory of needs hierarchy, as illustrated in in mini-case records.

Item 10 True-False

A community action volunteer is unable to concentrate on the work assignment for the day. Later he says he really doesn't care that he's offending his fellow workers and clients; his head hurts and he just wants the pain to go away.

T This is an illustration of esteem and belongingness needs being subordinated to physiological needs.

(Level: Analysis)

Obj. 11 To evaluate children's toys by the criteria of appropriateness for a given age, safety, and cost.

Item 11 F A family is shopping for a safe, low-cost toy for their 4-year-old son. From the 4 selections on the table, the Genuine Raggedy Andy Doll for \$15.00 would probably be the best selection.

(Level: Evaluation)

Activities: *Again—it's your turn, you lucky test constructor!*



Task 4: Answer the following questions on an index card:

- A) Why were there no *synthesis* items in the multiple choice and alternate choice sections?
- B) What is your critique of the following True-False item?
Item: T-F: One could not use fresh pineapple in the _____ salad we made in class.
- C) Is the chance level (odds that a student can get an item correct by guessing) higher or lower for alternate choice items than for multiple choice items?
- D) What are the advantages and disadvantages of alternate choice items?
- E) How is the personality (particularly risk-taking behavior) of the test-taker related to success in taking alternate-choice tests? How does the scoring technique affect the student's propensity to guess?

Task 5: Using the same general content area, raise the level of each of the following two knowledge items to comprehension items or above. Maintain the alternate choice format.

Item F True-False

T Energy is considered a resource because it is useful and limited.

Item G True-False

F Wool is a synthetic fiber.

Task 6: For each of the following objectives, write one alternate choice item which matches the objective in level.

Obj. H) The student will apply the formula for computing the unit price of dried foods.

Obj. I) The student will evaluate labels according to the criterion of completeness of information given.

Task 7: The modified alternate choice item usually asks the learner to state why a false item is not true or to correct the statement to make it true.

Using the general content area of the basic 4 food groups, write one *modified* true-false item; state the level of cognition.

An example of a modified alternate choice item:

Obj. J) To evaluate written nutritional material by using the basic four food groups and the RDA.

Item J Directions: Mark the item T or F. If the statement is false, write a short explanation of the fallacy.

T-F "High protein" breads and cereals contain the same quality protein as meat.

Explanation: Bread and cereal products do not contain, as meat does, all of the *essential* amino acids in balanced amounts as needed by the body. However, some combinations of plant foods which complement each other in amino acid content can be equal to meat in protein value. Some legumes and grains complement each other in this way.

Whew! On to Matching items!



C. MATCHING ITEMS

Matching items consist of two or more columns of options to be matched according to some stated criteria. The items below illustrate a matching format at the various levels of the cognitive domain.

Obj. 13 To interpret the label found on the bolt of fabric.

Item 13 Donna is at the store selecting material for the skirt to be made at school. She has narrowed the choice to four bolts of fabric. The labels are shown below. For items 1-5, write the letter of the label that applies to each statement.

Column A Label Sample		Column B Interpretation of Information	
a.	45" WIDTH BROOKLYN PARK 100% COTTON POPLIN MERCERIZED SANFORIZED	c	1. Material should remain the same color after washing.
		a	2. Material will not shrink more than 2%.
		a	3. For same pattern, less material in length will be needed.
b.	PERMANENT PRESS WEAR-STRONG 50% COTTON- 50% RAYON 36" Width	b	4. Material will require little ironing.
		c	5. Material may be too lightweight for a sturdy school skirt.
c.	PRESHRUNK SUPER-DUPER-100% COTTON ORGANDY COLORFAST 36" Width		
d.	95% COTTON 5% POLYESTER 41" COLORFAST		

Obj. 14 To apply basic color scheme types in planning room decor.

Item 14 Match the color scheme type in Column B with the descriptions in Column A by placing the appropriate letter in the blank by each number.

Column A		Column B
Color Scheme Descriptions		Color Scheme Types
<u>A</u>	1. Medium blue walls, navy draperies and bedspread, soft blue chair upholstery.	A. Monochromatic
<u>D</u>	2. Orange curtains and sofa cover, navy blue carpet.	B. Analogous
<u>B</u>	3. Blue carpet, green walls, chartreuse chair covers, aqua draperies and sofa.	C. Split complementary
		D. Complementary

(Level: Application)

Obj. 15 To analyze the mental growth experiences which a child can gain from a variety of kinds of activities.

Item 15 Below in Column A are listed some experiences a child is likely to encounter. In Column B are listed the mental growth skills that are likely to develop. Write the letters from Column B in the blank spaces to the left of Column A. More than one letter per blank may be accurate. Some of the possible answers are given.

Column A: Experiences		Column B: Mental Growth Skills
<u>C</u>	1. Feeling wet sand	A. Curiosity
<u>D</u>	2. Having Mom tell a favorite story	B. Art appreciation
<u>A</u>	3. Taking a toy apart	C. Sensory
<u>H</u>	4. Ironing like Mother	D. Listening
<u>A,B,G</u>	5. Looking at a picture book	E. Rhythmic skills
<u>F</u>	6. Making up a new game	F. Creativity
<u>E</u>	7. Beating a stick on a fence	G. Imagination
<u>G,H</u>	8. Playing with costume clothing	H. Imitation

(Level: Analysis)

Obj. 16 To evaluate housing selection according to family needs.

Item 16 Considering space needs, budget and family activities, select the housing alternative which seems most appropriate for each of the situations described. Place the appropriate letter(s) from Column B beside the numbered blanks in Column A. All blanks may not have responses. Some possible answers are given. If there is insufficient information in the description, indicate why.

Column A
Housing Alternative

Column B
Description of Situation

- | | |
|---|---|
| <p><u> D </u> 1. Row house, inner city
Chicago 2 bedrooms,
\$200.00/month rent.</p> <p><u> C </u> 2. Split-level, suburban
Levittown, N.Y., 3 bed-
rooms, \$450.00/month
mortgage.</p> <p><u> A </u> 3. One bedroom, balcony,
high-rise apartment in
Los Angeles, edge of
city, \$350.00/month
rent.</p> <p><u> </u> 4. Rural home; 10 acres of
land, no public transpor-
tation; 5 bedrooms; own
well.</p> <p><u> </u> 5. \$250,000 house on
Mississippi River, New
Orleans; space for enter-
taining; 2 acres of
wooded land; swimming
pool.</p> <p><u> B </u> 6. Watergate Apartment,
Washington, D.C.; 3 bed-
rooms, \$150,000 pur-
chase price or \$1200.00/
month rental.</p> <p><u> E </u> 7. Apartment in an older
couple's home; old house;
no air conditioning; big
yard; old neighborhood.</p> | <p>A. Shirley and Marie work at 9-5 jobs, have exten-
sive social engagements, want no housing care
obligations, and would like to use public trans-
portation to get to work.</p> <p>B. The Tuckers are relatively wealthy. She is an
Executive for the Federal government and he is
a trial lawyer. They have 3 grown children.</p> <p>C. The Olsons do not wish to live in the city, do not
mind commuting, want a family room for hob-
bies, and have budgeted 25% of their \$23,000
annual take-home pay for housing.</p> <p>D. The Johnsons wish to save as much as possible
on housing while going to graduate school in the
city. They want to keep down transportation
costs to school and work, have no children.</p> <p>E. Margaret is a single head of household with 3
young children. An admissions officer at the
local community college, she needs baby-sitting
help with her children, cannot afford more than
\$200.00/month for rent and puts high value on
safety.</p> |
|---|---|

Activities: Guess who's the item producer now!



- Task 8:** For any one of the following objectives, write a matching item which is congruent with the level of the objective.
- Obj. A The student will comprehend terms commonly used in contracts for installment purchases.
- Obj. B The student will analyze techniques which simplify work.
- Obj. C The student will analyze consumer decisions of a family, according to Maslow's needs hierarchy.
- Task 9:** From any magazine, find a series of 5 illustrations that could be used for one column of a matching type test item. Explain the format of the question.
- Task 10:** Matching items may have more than 2 columns of information. Can you state a general conclusion about the relationship of the number of columns to the difficulty of the item?

Task 11: Review the following item. How could this item be made less confusing? What does parallelism in structure mean?

SAMPLE: Match the items in Column A with the definition in Column B by placing the appropriate letter(s) in the blank beside each number. If more than one answer can be correct, explain why.

Column A: Terms

- | | |
|-------------------|---|
| _____ 1. Game | A. To cook in fat |
| _____ 2. Broiling | B. Cut in small pieces |
| _____ 3. Roasting | C. Cooking meat covered with water |
| _____ 4. Stewing | D. When one cooks by dry heat in the oven |
| _____ 5. Frying | E. Cooking by direct heat |
| _____ 6. Venison | F. Meat of wild animals, birds or fish |
| _____ 7. Pork | G. Deer meat |
| _____ 8. To dice | H. Meat from pigs |

ON TO ANOTHER ITEM TYPE!



D. FILL-IN-THE-BLANK AND LISTING ITEMS

Fill-in-the-blank and listing items are often called short answer or modified essay items because the learner must supply the answers, rather than choose from stated options. Synthesis of ideas is more difficult to measure in listing items than in essay. It can be done, however; see Obj. and Item 17.

The following objectives with accompanying items illustrate measurement of achievement at higher cognitive levels by the use of fill-in-the-blank or listing questions.

LISTING:

Obj. 17 The student will synthesize materials and information needed to effectively remove garment stains.

Item 17 List the kinds of information one needs to know in order to remove stains from garments (e.g., information about fibers, absorbents, enzymes, attributes of stain, bleaches, chemical solvents, color fastness, etc.)

(Level: Synthesis)

Obj. 18 The student will evaluate clothing choices for young children according to the criteria of economy, suitability for age and occasion, self-help features and safety.

Item 18 On the table in the front of the room is a selection of clothes for a child. Which pieces would be suitable for a 14-month-old child going to the beach? Tell why.

(Level: Evaluation)

FILL-IN-THE-BLANK:

Obj. 19 The student will interpret a diagram of a pattern placed on the fabric.

Item 19 View the diagram projected on the screen and complete the following statements:

- A. The fabric is folded with the grainline which is _____.
- B. Pieces A and B are placed on the grainline which is _____.
- C. From pattern piece A on this layout, the tailor will cut the following number of pieces: _____.

(Level: Comprehension)

Obj. 20 The student will apply rules for pressing and ironing various fabrics and textures.

Item 20 An acetate fabric will (melt) if ironed at a high temperature.

(Level: Application)

Obj. 21 The student will analyze differences in basic family structures.

Item 21 Nuclear and extended families differ in the following variables:

(Number of people involved)
(Presence or absence of others
beyond parents and offspring)

(Relationship of family members
to each other)

(Roles and division of labor
assumed by each member)

(Support systems available
to family members)

(Level: Analysis)



Activities: Your turn again!

Task 12: Using the same general content areas, and applying a listing format, raise the level of any 2 of the following listing items from the knowledge level to comprehension or higher.

Item 12a List ten pieces of equipment used in the kitchen for food preparation.

Item 12b List 3 types of basic color schemes.

Item 12c List the abbreviations for the following units of measurement: teaspoon, tablespoon, cup, few grains.

Task 13: Using the same general content area, and applying fill-in-the-blank or listing format, raise the level of the following item from knowledge level to comprehension or above.

Item 13 Most cheeses are made basically the same way. The milk is made solid and the _____ is separated from the _____. Once the basic cheese is made, each variety may be treated in different ways to create its flavor. For example, some cheeses have bluegreen veins throughout: this colored part is caused by _____. Swiss cheese has large holes throughout which are caused by _____. Other cheeses ripened the same way may differ in the kind of milk used.

For example, blue and Roquefort cheese look the same, but blue cheese is made from the milk of the _____ and Roquefort cheese is made from the milk of a _____. The texture of cheese is determined by the proportion of _____ to protein and fat.

Task 14: Answer the following:

Could most fill-in-the-blank or listing items be converted to multiple choice, alternate choice or matching format, without changing the level of difficulty or content area? What would be the advantage of this conversion?

If these items cannot be converted, what are the reasons?

Task 15: Critique the following series of fill-in-the-blank items:

43. and 44. 2 most important resources are _____ and _____.

45. Sometimes one is more important than the other because _____

46. An example of this is: _____

Task 16: State the advantages and disadvantages of listing and fill-in-the-blank test items.

**—SECTION COMPLETED—
TAKE A WELL-EARNED REST!**



SECTION II. ESSAY TEST ITEMS

CONCEPT: Measurement of higher level cognitive objective achievement through the use of essay test items.

ESSAY ITEMS

Essay items, by definition, emphasize the learner's ability to synthesize ideas by concepts rather than merely to summarize or abstract isolated separate parts of an idea. Essay items may also simultaneously test the learner's ability to apply, to analyze, or to evaluate.

The following objectives, with related essay test items, illustrate essay items which test the learner's ability at various levels of the cognitive domain in addition to the learner's ability to synthesize information. All objectives are in the area of child development.

Obj. 22 To apply definitions of language and perception in identifying language and perception problems of children.

Item 22 Describe some language and perception problems which children may have. Distinguish between the two problem types.

(Levels: Application and Synthesis)

Obj. 23 To analyze the relationship of play activities to developmental level, particularly motor skills.

Item 23 Describe four play activities that a child would use in sequence for developmental tasks and explain why each would be needed at the particular stage and how the development accomplished would lead to the next step.

(Levels: Analysis and Synthesis)

Obj. 24 To plan the arrangement of a child development laboratory so that opportunities for social development will exist.

Item 24 Recommend arrangement for a child development lab area which promotes social activity. Draw the plan and state reasons to support recommended arrangement.

(Level: Synthesis)

Obj. 25 The student will evaluate the interaction of teacher and child, according to the criteria of positive guidance, when an emotional crisis occurred in the classroom.

Item 25 Using the observation sheet on emotional development evaluate the manner in which an emotional crisis was managed.

a. Describe the incident.

b. What action was taken by the teacher?

c. What was the result of the action taken?

d. What evidence is there that positive guidance was given? or

What positive guidance could have been used if none was used?

(Levels: Synthesis and Evaluation)

Of course, other content areas can be tested by essay items also.

Obj. 26 The student will analyze factors which contribute to an individual's choice of housing.

Item 26 In a short essay or poem, summarize the factors which contribute to an individual's choice of housing.

(Level: Analysis and Synthesis)

- Obj. 27 The student will analyze the relationship of a family's value system to consumer choices.
- Item 27 Discuss the relationship between family value systems and consumer choices. Give illustrations for the major points stated.
- (Level: Analysis and Synthesis)
- Obj. 28 The student will analyze resource availability projected for the next 25 years.
- Item 28 After viewing the film *Future Shock*, discuss the family resources projected for the future. Will basic value systems change? Will resources change? Will the character of interpersonal relationships change?

DEVELOPING ESSAY TEST ITEMS

Stating essay test items may seem relatively quick and easy, but if the item constructor remembers the complexity of cognitive level being tested, the complexity of the item type itself is also quickly remembered! It is the intent of the essay item to test the learner's ability to articulate ideas; express ideas in an organized and precise manner, and to allow for some creativity in the process. Construction of the item must take into account criteria for scoring. Predetermining the criteria for scoring accuracy of response decreases the essay item's subjectivity, thereby erasing the dichotomy of essay or objective test items, a distinction fallacious but frequently heard.

The item developer, then, after determining basic content area and cognitive level of the item, must consider:

- A. Major content points which must be included in the response; penalties for non-inclusion; score for inclusion of each.
- B. Weight to be given to correct grammatical structure.
- C. Weight to be given to creativity of response.
- D. Penalty for inclusion of inaccurate and/or irrelevant information.

YOUR TURN . . .

Task 17: A. Score on a basis of 50 possible points the student's response (12th grade level) to the essay question stated below.

QUESTION: Discuss the increase in women's gainful employment outside the home over the past 25 years. Include reasons for and effects of female homemaker gainful employment.

SENIOR HIGH STUDENT'S RESPONSE:

"During World War I, women had their first chances to break away from homemaking. This first chance was reinforced by World War II. In both cases, women were absolutely necessary for the running of the machinery of the economy. After World War II, the women stayed. Some factors responsible could be the following:

"Women were receiving more education and were working for the satisfaction gained from contributions they were trained to make.

"More families lived in urban and suburban areas facilitating this return. Statistics prove more city women than farm women work. This certainly shows that proximity of the population to places of employment encourages greater employment.

"With keep-up-with-the-Jones standards of living and gains of pleasure, motivations in spending increased income is needed.

"There has gradually become less of a race barrier in employment allowing more of the non-white population to join the work force.

"Community acceptance of the employed homemaker, resulting in better facilities in the community has greatly eased her role. Especially in the cases where young children are present in the family. While this is a detriment, the increased provision for child care in communities around metropolitan areas has lessened this problem.

"There are several easily seen effects. Even with young children to provide for, at least half of the employed homemaker's income comes to the family as income—raising level of consumption (hopefully, standard of living).

"The employed homemaker has a longer day with less time spent on homemaking. She may find demands on her time trying if she is to leave time for family, etc. Quite often through using all her resources effectively, and looking realistically at her standards, she emerges minus the boredom and frustration stripped down to the efficient essentials, with a happy, relaxed family freed from the dominance of things and with a more relaxed, flexible attitude toward life."

B. Compare the score you assigned to the answer to the score assigned by one of your fellow students.

C. Is there a discrepancy in the two scores? If so, how could you resolve the scoring inconsistencies? Would this resolution of inconsistencies make essay questions fairer to students? What is the "subjective" element in essay questions?

Task 18: Answer the following question:

Is it possible to write essay test items to match knowledge or comprehension level objectives? If so, state one such test item. If not, why not?

Write essay items which measure achievement of the following objectives. Include criteria for scoring the item.

Task 19: Objective: The student will analyze types and cases of family disintegration.

Task 20: Objective: The student will apply the stages of human development as stated by Havighurst.

Task 21: Objective: The student will evaluate influences on an individual's decisions about clothing.

Task 22: Objective: The student will evaluate the influences of the aesthetic aspects of housing on the psychological well-being of the inhabitants.

Task 23: Objective: The student will synthesize a work simplification plan for home tasks based on a mini-case record of a homemaker returning to work.



SECTION III. QUEST ADVENTURES

CONCEPT: On how to measure student cognitive achievement objectively, at the higher levels of the domain—and be *creative* in the process!

(Or, how to make test-taking fun and profitable!)

Why make test-taking a drag? The following test items illustrate measurement of cognitive objectives in a more than humdrum way.

I. USE PHRASES FROM SONGS

"In the year 3535, ain't going to need to tell the truth, tell no lies; Everything you think, do, and say is in the pill you took today."

If a pill was developed to meet your nutritional needs, what component would be needed to give some psychological satisfaction? Explain.

(Level: Analysis)

II. Fill in the blanks with the letter of the proper tool from the list below. Then put this letter by the corresponding number at the left of the paper. Each part may be used more than once or not at all.

Dear Cathy,

- | | | |
|-----------|--|-------------------------|
| _____ 72. | I made a skirt! I'm really proud of it because it fits so well. | A. a pressing ham |
| _____ 73. | I always thought the sewing machine was the only helper | B. a pizza cutter |
| _____ 74. | you would need in making a garment. But that's not true. . . . | C. a seam guide |
| _____ 75. | In taking my measurements to determine my pattern size, we used <u>72</u> . Then when I was laying the pattern out | D. a dressmaker's ruler |
| _____ 76. | on the fabric, I measured with <u>73</u> . I cut out the skirt with <u>74</u> . To transfer the pattern markings to the fabric, I used | E. typing carbon paper |
| _____ 77. | <u>75</u> and <u>76</u> . When stitching seams, I used <u>77</u> to help me sew straight, even seams. I finished the seams to | F. automatic hem gauge |
| _____ 78. | prevent raveling with <u>78</u> . After stitching the darts, they were pressed on <u>79</u> . When making the lengthwise fold | G. hem gauge |
| _____ 79. | in the band to form its own interfacing (the triple-fold waist-band), the <u>80</u> was used to press without having to | H. shears |
| _____ 80. | measure and pin beforehand. | I. scissors |
| _____ 80. | It was "sew" easy with these tools! | J. pinking shears |

Always,

Pam

- K. tracing paper
- L. a tape measure
- M. a skirt board
- N. a tracing wheel
- O. wrist pin cushion
- P. a zipper foot

III. BUILD ITEMS AROUND A NURSERY RHYME—For example:

"Jack Sprat could eat no fat;
His wife could eat no lean."

ITEM: What dietary deficiencies would Jack and his wife suffer?

OR...USE A POEM AS THE ITEM BASE—For example:

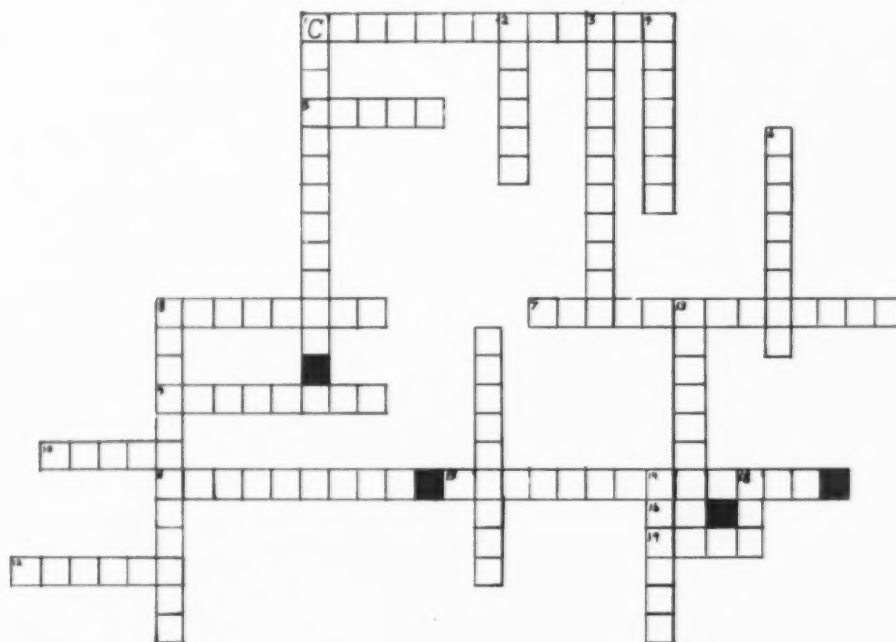
"All work is empty, save when there is love.
And when you work with love
You bind yourself to yourself,
And to one another,
And to God . . .
Work is love made visible."

From *The Prophet* by Kahlil Gibran
("On Work," New York: Alfred A. Knopf Publ., 1923).

ITEM: What is the relationship of these ideas expressed by Gibran to home management?

IV. DEVELOP A CROSS-WORD PUZZLE.

TEST YOUR F.S.C.I.Q.*



*Test Your Family Studies Concepts Intelligence Quotient

(Level: Analysis)

TEST YOUR F.S.C.I.Q.

DOWN

1. A couple living together, not legally married.
2. These factors often lead to family disorganization and disintegration.
3. How the family is viewed by society as a whole.
4. The most prevalent structure of families in current American culture.
6. A kind of court which handles some types of family legal problems.
8. What Toffler in *Future Shock* suggests as an alternative to biological parents.
13. Declaring a marriage null and void.
14. A pervasive theory of human needs which in part explains values of a given family.
17. _____ status (abbrev.): a major determinant of family life style.
18. Where you are in your class if you get all blanks completed in this puzzle!

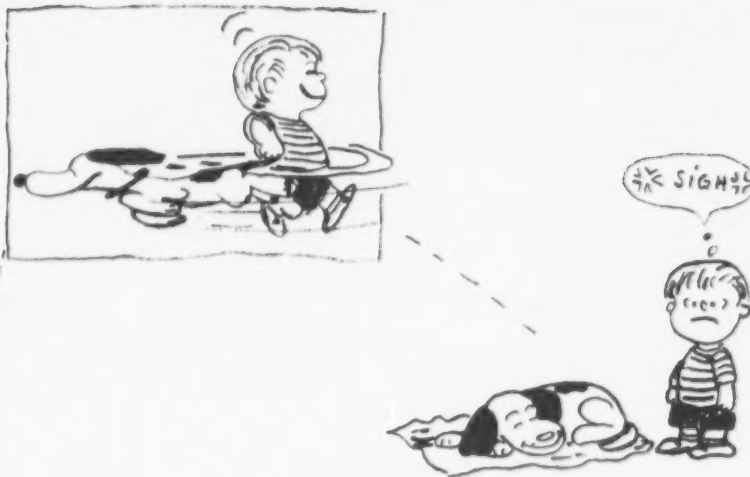
ACROSS

1. One component of family interaction
5. Assignment or assertion of decision making responsibility; control: _____ structure.
7. The last major stage of the family life cycle, as defined by Duvall.
8. A prominent and pervasive influence on a child's physical, mental and emotional growth.
9. What this puzzle is all about (pl.)
10. _____ of family members; often taught in relationship to family composition.
11. Synonym for composition + conformation; often taught in relationship to family functions.
12. A variation of the extended family.
15. Tasks which families must master at each phase of the family life cycle in order to be successful in ensuing stages.
16. Article used before nouns beginning with a vowel.
19. What you may do when you finish this puzzle!

NOW—YOUR TURN! QUEST ACTIVITIES

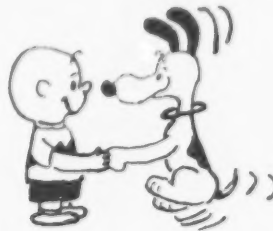
- Task 24:** Find some stimulating song, picture, novel, poem—and build a test item—any type—around it. Classify the cognitive level of the item.
- Task 25:** Find a cartoon or comic strip in the content area of family studies and base an essay item upon it. Include criteria for scoring.
- Task 26:** State a test item in the form of a riddle or joke. Classify the level of the item.
- Task 27:** Figure out an efficient way for students to tape record their responses to a tape-recorded quiz. Suggest some item types pertinent to this technique.





CONGRATULATIONS!

—on your perseverance and your achievement! You should now be a relatively competent and secure item-constructor. Measurement, and certainly evaluation, includes many more considerations than just the one component of developing test items. This is a significant skill, however, for the evaluator to master. Evaluation of students' achievement can be a creative, challenging and rewarding part of teaching, rather than drudgery. Try to make it so!



KEYS FOR PRE-TEST AND SECTION TASKS

PRE-TEST KEY

- Item 1:* This item is based on opinion, not factual information, since the criteria for evaluation are not included in the item stem.
- Item 2:* The word *always* gives a clue to the answer, even if the test-taker knows nothing about the content of the item.
- Item 3:* Grammatical structure gives the clue to the answer.
- Item 4:* This item is pertinent to only one situation; it does not approach universality of content facts. It may therefore be too trivial to bother assessing.
- Items 5-9:* Did the items written by the learner meet the following criteria?
- A) Item is of the kind specified in the instructions, e.g., #5 multiple choice; #6 alternate choice; #7 matching; #8 fill-in-the-blank; #9 essay
 - B) Item matches objective in 1—level; 2—content.
- Item 10:*
- A) Higher. The learner has 1 out of 2 chances of getting an alternate choice item correct by guessing; s/he has only one out of 4 (or 3 or 5, depending on the number of options existing in the item) in a multiple choice item.
 - B) Usually a positive correlation; difficulty increases as the number of columns increases.
 - C) Synthesis, by definition, means combining elements in a new way, creating. This is difficult to achieve when options are already specifically included for the learner.
 - D) Matching, multiple choice or alternate choice items which provide blanks for the responses. The scorer needs to read only letters or numbers in blanks. This is done most quickly with a key placed beside the blanks.

Reasons for using types that take longer to score: wish to test learners' ability to state ideas and synthesize; wish to test learners' ability to state alternatives.

KEY FOR TASKS 1-3

MULTIPLE CHOICE SECTION

Task 1:

- A. Option 2 is less confusing because each response alternative is delineated separately on a line. Option 1, running the response alternatives together, is less clear.
- B. Response options (d) and (e) make the item more difficult, for the learner must evaluate all possibilities and not just select the first correct response recognized.
- C. The stem specifies "4 areas"; only option (b) contains 4 areas. Knowledge of the content is therefore unnecessary in order to respond correctly.
- D. For example:
Stem: Upon what factors is the cost of meat contingent? No change in response options necessary for this version of a revision.
- E. Length of the correct alternative gives the appearance of greater comprehensiveness and therefore possibly accuracy. The incorrect responses, by contrast, because of brevity, appear inadequate.

Task 2:

Sample items:

- For Obj. F: In general, in order to preserve nutrients, vegetables should be cooked in the following manner:
- (a) in an uncovered saucepan
 - * (b) in as small an amount of water as possible
 - (c) with salt added
 - (d) with vinegar added
- For Obj. G: Advertising a bracelet on sale which actually brings no profit to the merchant in order to attract customers to purchase pendants with a high mark-up rate is an example of which of the following advertising strategies?
- (a) appeal to status needs of consumer
 - * (b) loss leader
 - (c) special events attraction
 - (d) appeal to basic needs of consumer
- For Obj. H: Considering the factors of safety, appropriateness for a given age and cost, *in that priority order*, which of the following toys is the best selection for a 4-year-old?
- (a) C-B radio, plastic case, \$59.50
 - * (b) Metal truck, rounded edges, \$5.95
 - (c) Pick-up sticks, \$1.49
 - (d) 200-piece jigsaw puzzle, large pieces, \$2.29

Task 3: For example:

Which of the following factors is *not* considered in determining the stage of the nuclear family life cycle? More than one may be correct.

- (a) Age, activities of oldest child
- (b) Death of spouse
- * (c) Earning power of head of household
- * (d) Age, activities of middle child or children

KEY FOR TASKS 4-7

ALTERNATE CHOICE SECTION

Task 4:

- A. Synthesis items, by definition, though not impossible, are very difficult to construct in these 2 formats, particularly alternate choice. This is because the item presents boundaries on responses by stipulating options, leaving little opportunity for creativity by the respondent.
- B. Question unclear: content not universal, probably unimportant.
- C. Greater odds of getting response correct by chance for alternate choice (one out of 2 chances) than for multiple choice (one out of 3, 4, or 5 depending upon number of options given).
- D. Advantage: Quick scoring
Disadvantages: Increased opportunity for correct response by guessing; tends to imply content reduced to "yes and no" alternatives.
- E. If the respondent is not penalized for wrong answers, in addition to being rewarded for correct answers, the risk-taker may guess when answers are not known, and by chance alone, improve score.

Task 5: For example:

F. True-False

- F Goods, skills and services are considered to be resources if they meet the single criterion of being limited in availability.

(Level: Analysis)

- G. Examine the fabrics on the table. Identify each by marking N if it is a natural fiber or S if it is a synthetic fiber.

N	S	Fabric 1
N	S	Fabric 2
N	S	Fabric 3
N	S	Fabric 4

(Level: Analysis)

Task 6: For example:

H. True-False

- F A 793 gram box of instant rice is on sale for \$1.79. The unit price is 7 cents per gram.

I. True-False

- The label magnified on the bulletin board includes all the information required by law.

Task 7: For example:

True-False

- F Pregnant or lactating mothers require 6 cups of milk a day. Two glasses of whole milk, 1 serving of cheese and 1 serving of ice cream is adequate for a lactating mother in normal good health. If the statement is false, explain the fallacy.

(Level: Evaluation)

KEY FOR TASKS 8-11

MATCHING SECTION

Task 8: For example:

For Obj. A Write the letter of the appropriate definition in Column B beside the numbered blanks of terms in Column A.

Column A Terms	Column B Definitions
<u> D </u> 1. Simple interest rate	A. Number of months the purchaser has to complete payment; number of installment payments.
<u> C </u> 2. No prepayment penalty	B. Amount of money to be paid at time purchase is made and agreement signed.
<u> A </u> 3. Term of contract	C. Clause that states full payment may be made at any time with no financial penalty to purchaser.
<u> B </u> 4. Down payment	D. Percent of purchase price paid for privilege of spreading payments over time.

(Level: Comprehension)

For Obj. B Match the technique for simplifying work with the situation described by writing the letter of the appropriate description in Column B beside the numbered blanks in Column A.

Column A With Simplification Technique	Column B Situation Description
<u> A </u> 1. Change the standards	A. Katherine wishes to fix a home-prepared meal for dinner guests, but the time she has to spend in preparation conflicts with her mid-term exam study. She decides on a picnic and purchases delicatessen salads, carry-out chicken, bakery pastries, and canned sodas.
<u> C,D </u> 2. Work more efficiently	B. Weary of cleaning the carpet with a canned foam cleaner and a sponge mop, John rents a carpet cleaner from the local supermarket.
<u> B </u> 3. Obtain more or different resources to do work	C. Eileen learns to use both hands equally well in polishing furniture, vacuuming and washing floors.
	D. Each time Sammy prepares spaghetti, tuna-noodle casserole or country-style steak, he prepares a double quantity and freezes half for later use.

For Obj. C Match the consumer decisions in Column B with the need as stated in Maslow's Needs Theory in Column A by filling in appropriate letter(s) in the numbered blanks. Some possible answers are suggested. Not all blanks will have matching items.

Column A	Column B
<u>A,E</u> 1. Physiological needs	A. Filling foods are the first purchases the Brown make each month. Living on restricted retirement income, there is little slack in the budget.
<u>C</u> 2. Safety needs	B. Daryl budgets \$10.00 a month for an evening out with his friends. Because they are in circumstances similar to his, he finds their company reinforcing.
<u>B</u> 3. The need to belong	C. Anne spends an extra \$40.00/month to avoid riding the subway or bus at night, because she is afraid.
_____ 4. The need for self-esteem	D. Gloria has enrolled in a tuition course in computer science not because she needs the information for her job, but just because she is curious and wants to know.
_____ 5. Self-actualization needs	E. The Mermaris have incurred considerable expense to move to the Southwest because of an asthma problem.
<u>D</u> 6. Knowledge (the need to know)	
_____ 7. Aesthetics (the need for beauty)	

Task 9: For example:

- _____ Illustrations of advertising to match with appeal to various needs.
- _____ Food illustrations to match with nutritive needs of certain populations—e.g., young child, active adolescent, elderly.
- _____ Illustrations of defense mechanisms (cartoons: pictures or story leads).

Task 10: Difficulty increases with increase in number of columns because number of combinations of response options increases.

Task 11: Parallellism means that all options in the column are stated in like grammatical structure and pertain to the same content area. If all of the terms in Column A were verbs referring to cooking techniques or were animals or kinds of meat that column would be internally parallel. If all terms in Column B were nouns and synonyms for kinds of meat or verbs or infinitives describing cooking techniques, those terms would be parallel.

KEY TO TASKS 12-16 FILL-IN-THE-BLANK AND LISTING SECTION

Task 12: For example:

Item 12a List kitchen equipment or appliances which would be appropriate for the following food preparation tasks:

Responses

1. Kneading bread
2. Grating cabbage
3. Paring carrots
4. Scraping cake batter from bowl
5. Cutting up chicken

1. Food processor
2. Grater or food processor
3. Vegetable peeler
4. Rubber spatula
5. Sharp butcher's knife

(Level: Application)

Item 12b List a color scheme which would achieve the following objectives:

Responses

1. Increase apparent size of a Southern-exposed bedroom.
2. Brighten a large Eastern-exposed kitchen.
3. Give a subtle Early American authenticity to a reconstructed 1790 Colonial home in Annapolis.

1. Monochromatic—blue or green.
2. Analogous—yellow, orange, red.
3. Accented neutral—in authentic Colonial colors, e.g., beige or ivory with Williamsburg blue, green or gold.

Item 12c If a homemaker did not have a liquid measuring cup, or a tablespoon measure, in order to use the following recipe, what substitutions could be used? Fill in the blanks to the right of the item.

Responses

Recipe Requirements

- A. 2 cups milk
- B. $\frac{1}{2}$ cup cream
- C. 1 T. sugar

Substitution

- A. Four $\frac{1}{2}$ cups or 1 pint
- B. One $\frac{1}{2}$ cup or $\frac{1}{4}$ pint
- C. 3 teaspoons

(Level: Application)

Task 13: For example:

Contrasting Roquefort, Muenster and strong cheddar cheese, list the variables which determine the character of cheese.

Source of milk
Introduction of air

Ripening time and process
Proportion of water to protein and fat

Task 14: Conversion is possible. The advantage would be speed of scoring.

Task 15: Critique:

Poor item because:

Questions 43 and 44 are mixed together in confused format and they include a subjective judgment (importance varies with the situation). Questions 45 and 46 do not stand alone but are dependent upon questions 43 and 44; they are also ambiguous.

Task 16:

Advantages

Questions are relatively quick to construct.

Format is particularly amenable to knowledge and comprehension level questions.

Disadvantages

Difficult to create unambiguous format.

More confusing to score than alternate or multiple choice.

KEY FOR TASKS 17-23

ESSAY SECTION

Task 17: Discrepancies are probably attributable to different decisions about these scoring considerations:

1. Articulation of ideas, e.g., the women stayed where?
2. Comprehensiveness and accuracy of information presented (e.g., statistics *prove* (?) motivation to *spend* is needed? What about factors of technological improvements; urbanization; changing roles of family members, particularly women; increased educational opportunities for womn—all of which affected increase of women in labor market.)
3. Penalty for inclusion of inaccurate information (e.g., mention of loss of race barrier? Evidence offered to support this? Employed homemakers do not spend less time on home-making, necessarily. Documentation for statement—re: "happy, related family"?)
4. Weight for accuracy of grammatical structure (e.g., incomplete sentence, paragraph 6).
5. Do ideas flow easily from one paragraph to the next? The subjectivity associated with essay item comes from lack of predetermined criteria for scoring and consequent individualized treatment to each student's response.

Task 18: Probably possible, but why use essay items for this purpose, when the lower cognitive levels can so easily be tested by simpler formats (e.g., listing, alternate choice)? In order to achieve a balance of levels tested and item types offered, essay items are most effectively used to test the synthesis level.

Task 19-23: After writing the proposed item, establish scoring criteria. Refer to the list of considerations on page 13.